1: Longrigg G-4, 5 (ca. 1918-1940) MH1 Iraq MH1

312 185 Although by 1900 these conditions were not unrealized either in Baghdad or Istanbul, they had not been formulated as connected problems for solution. Governmental activity in this sphere had consisted, at the caprice of Pashas, in no more than some measure of organization of petty local works. The Administration had in fact neither the knowledge nor control nor finance necessary to formulate or organize a comprehensive irrigation system. Heedless alike of present evils and of rich possibilities, the governors of 'Iraq were doing and planning nothing while irrigation in Egypt and India was making great and fruitful progress. Nor was the contribution of the public more promising; the shiftless tribal cultivators carried out with low efficiency such minimum of silt-clearance and flood-dyke repairs as was forced upon them, erected temporary canal-heads of reed-bundles or brushwood, multiplied their primeval devices of water-lift, wastefully prolonged or resited their canals, and ruined area after area with neglected salting.

An outstanding case of deterioration in irrigation conditions was occurring in these years on the middle Euphrates. Up to 1880 the Ḥilla branch had been maintained as the principal waterway, the Hindiya branch being a canal deriving from it. But the closing of the Saqlawiya head up-stream, and the operation of natural forces of silting and scouring, allowed the Hindiya branch to gain in width and discharge. The problem of maintaining the flow of the Ḥilla branch had become first critically difficult and finally impossible. French engineers in 1891 completed a masonry dam which still held precariously in 1900, but failed to arrest the increasing ruin of Ḥilla branch irrigation.

487 The ancient land routes of the territory had remained constant since many centuries. Camel caravans used the desert ways of Damascus and Aleppo, mule-trains the time-worn hill tracks into Luristan, Kirmanshah, Persian Kurdistan, and the Van wilaya. 491 Within 'Iraq the routes were fixed by custom based on convenience; but here there were signs of recent progress in the provision of wayside Khans, new toll-bridges of stone or brick or resting on fragile pontoons. The roads, varying by districts in surface and security, were everywhere unsurfaced and neglected, deep in summer dust or flooded to seas of mud by rain or the overflow of canals.

•499 Railways had, for many years, been hailed from a distance by 'Iraqis of every class as the bringers of ease and progress, and schemes in plenty had been propounded—those of Chesney in the eighteen-thirties, of Andrew in the 'fifties, and later of the Austrian von Pressel, the Italian Tonetti, the Frenchman Cottard, the Russian Kapnist. A local company had been formed in the 'eighties to construct a Khaniqin–Baghdad line, which lack of

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

capital rendered abortive; and a successor enterprise in 1890 was no more fortunate. At the close of the century talk of the 'Baghdad Railway' was more than ever persistent since, from the year 1888, the Germans had begun their career of Eastern ambition. The completion by the 'Ottoman Company of Anatolian Railways' of its line to Ankara in 1893 was followed by its prolongation to Konia in 1896; and in the same year permission was obtained for an extension to Diyarbakr, and ultimately through 'Iraq. But immediate Russian objection was raised, the proposed alignment by Diyarbakr was abandoned, and a pause of two years followed. Thereafter the Kaiser paid the second of his visits to the Ottoman dominions, swore devotion to the Caliph and to Islam, and secured in 1899 the arrangement of a draft concession for a line from Konia to Mosul, Baghdad, and the Persian Gulf. A German envoy visited 'Iraq to report on routes, a German cruiser appeared in the Gulf, and a technical Commission in 1900 toured the probable alignment through 'Iraq to Kuwayt, where British suspicions were abruptly aroused. Meanwhile the diplomats of Turkey and Germany met to prepare a definitive convention, watched with interest from Whitehall and Delhi. The public of 'Iraq, far from these conclaves, had as yet seen no enterprise on steel rails more imposing than the Baghdad–Kadhimiya horse tramway, relic of Midhat Pasha.

The natural highways of 'Iraq had been, since the dawn of history, its great rivers, and on these the dozen types of sailing-boat and skiff, raft and coracle still plied. But since the eighteen-forties steam navigation on the rivers had played its part in 'Iraq economics. The Euphrates and Tigris Steam Navigation Company, formed in 1861 by the Lynch family and managed in Baghdad and Basra by companies bearing their name, had maintained a Tigris service for two generations, interrupted only by the obstructions of an officialdom dully resentful of foreign enterprise, by the low-water difficulties of navigation, and by the rifle-fire of riverain tribesmen. The Firman of authority, dating from 1834, seemed to limit the Company to simultaneous use of two steamers,[1] and the Lynch efforts were ceaseless for authority to increase this number and to employ barges. Their interests were, from 1879 onwards, closely associated with the British India Steam Navigation Company. Various Turkish or 'Iraqi single-ship enterprises had been amalgamated, a generation earlier, into a single 'Oman-Ottoman Administration', under the Turkish Ministry of Marine. Its fleet of small, barely river-worthy steamers took about half of the total

[1] The *City of London* launched in 1862 was lost in 1881, the *Dijla* launched in 1865 was lost in 1876. The *Blosse Lynch* (1878), *Khalifa* (1880), and *Mejidieh* (1882) were in service in 1900.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

factory) impressed even foreign critics as well-managed; formal parades and regimental bands improved morale; and Nadhim Pasha's policy of concentrating his forces was retained in some measure by his successors. A state of feud between the Wali and the General was in each wilaya more usual than one of collaboration, and was curable only when the two posts were combined. In army as in civil administration, the fundamental disease was the abiding poverty which, for economy, must needs acquiesce in depleted strengths and reserveless depots, leave pay in arrears, and force the troops often to live on the countryside—or to desert.

The Ḥamidiya regiments, recruited in 'Iraq only in the extreme north, ceased to exist after 1909; but 'frontier companies' designed to give military employment to Kurdish tribesmen of the Shahrizur and Sulaymaniya sanjaqs were formed in 1912 with a more military and less patriarchal complexion. A greater reorganization was that which in 1911, on the advice of von der Goltz Pasha, created the 4th Inspectorate, to cover the whole of 'Iraq and south-western Arabia with two Corps, the 12th and 13th, at Mosul and Baghdad respectively and one, the 14th, in the Yaman. The Reserve system was unchanged until, after a complete breakdown, it was revised, all too late, in 1914. The Navy at Baṣra remained decayed and futile. The gunboat *Zohab*, acquired in 1902, was in 1911 captured by the Italians in the Red Sea. *Kilid al-Bahr* remained afloat. The *Marmaris* arrived at Baṣra in 1908.

Among improvements in communications made during this period the greater use of wheeled traffic, notably on the upper Euphrates routes and those radiating from Baghdad, called for a modest measure of road-making. A Zab bridge was completed, not without grave scandal. The telegraph service was extended to most of the small towns, including those of the Kurdish qadhās. The use of telephones began to be extended in Baghdad to the beginnings of a public service, and in 1914 there was talk of a Baghdad–Baṣra wireless service. The 'Aniza-borne trans-desert postal service, diverted in 1906 from a Damascus to an Aleppo terminal, was twice robbed by Dulaym in 1909 and was suspended in 1912. The Tatar service by Mosul to Istanbul was maintained until the outbreak of war. Offers were twice made of a motor-carried post to Syria: once, optimistically, by Ḥamdi Bey Baban in 1911, and once by a French group in 1914. Adoption of either proposal would have involved major road improvement and called for a standard of mechanical reliability unlikely to be achieved.

Of the succession of well-remembered high Turkish officials of this period, scores of personal anecdotes are still told in 'Iraq today. All suffered from the growing penetration of Turkish administration by party politics after 1908, as they had from

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

towards equality of treatment. Their own savagery had been in part tamed by the severities of the 'nineties, and their shrine of Shaykh 'Adi was restored to them in 1907. Their Mir retained his authority and the friendless community their half-secret cult and practices; but there were signs of closer Government penetration after 1909. The application of conscription produced armed resistance in 1913, but a corrective visit of Turkish troops was not seriously opposed.

4. PROJECTS, BY LAND AND WATER

Far away from shabby, backward, and turbulent 'Iraq, Baghdad Railway negotiations vitally affecting it continued as the century opened. The results reached between the Deutsche Bank, the Anatolian Railways, and the Turkish Government were contained in the Royal Irada of January 1902. This, re-cast in March 1903, revealed that the Germans had obtained excellent terms. A railway was to be built from Konia to the Persian Gulf, branches within 'Iraq were envisaged, financial provisions were generous, and a new Turkish company, the Imperial Ottoman Baghdad Railway Company, was to be formed.

The publication of the concession excited world-wide interest. The French, who in 1899 had agreed in principle to participate, now showed little enthusiasm. British co-operation was eagerly sought by the German promoters; but opinion in London, formerly indifferent or favourable to the project, was shocked now at the threat to India and to British interests in 'Iraq and the Gulf. The tide of opinion turned decisively against it, and Mr. Balfour was compelled, unwillingly, to announce British abstention. The Germans were bitterly disappointed. In Turkey itself the scheme had many critics; others favoured the project as one of hopeful development far beyond unaided Turkish capacity. In 'Iraq awareness of the enterprise grew slowly, and the same two bodies of opinion declared themselves: the one welcomed progress in any guise, the other dreaded foreign and Christian penetration.

The section Konia–Eregli was finished by October 1904 and the line prolonged to Bulgurlu, where it halted until 1909. In 1914 the Amanus tunnel was begun, the Euphrates bridged, and earth-work was proceeding towards Ras al-'Ayn. In the meanwhile other railway schemes had been propounded: a British line to run by Port Said, 'Aqaba, and Jawf to Baṣra, a French line to pass by Homs, Palmyra, and Dayr al-Zur to Baghdad and Mosul. Both were rejected by the Ottoman Government. German attempts to secure British support for their Bagdadbahn continued, only to be met by the reply, given in 1907, that opposition would cease if and when a Baghdad–Baṣra line was under all-British construction.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

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The Turkish revolution had immediate effects. The Germans became unpopular, their railway was bitterly opposed, not least by Isma'il Haqqi Bey, a Kurdish deputy from Baghdad; and the British enjoyed a brief return of popularity. But by 1911 the old positions were resumed, with Germany again as the acceptable Power and the railway tolerated. Great Britain still refused participation and declined equally to agree to a requested raising of Turkish Customs rates. Suggestions in 1910 for a British-dominated southern section of the railway came to nothing, and early in 1911 a Turkish plan for a Turkish-French-British Company to construct the Başra–Baghdad section was again rejected. But a Convention was drafted soon afterwards, in March 1911, on the basis of German renunciation of its Company's exclusive rights in southern 'Iraq, in return for assurance of participation in whatever other non-Turkish company might undertake these works.

Meanwhile by the Potsdam Agreement of 1910 Germany had accepted Russia's position in north Persia, and agreed not to oppose a Russian railway from Teheran to Khaniqin. France, disturbed by this Agreement, was pacified; and her favour to the Baghdad Railway was secured by a Franco-German arrangement which admitted a French privileged position in Syria, and removed other causes of friction or suspicion.

Before the conclusion of this Agreement, further Anglo-Turkish talks in 1911 and 1912 had dealt with the construction of the railway through southern 'Iraq, and in May 1913 terms were at last agreed though in fact never ratified. They covered, besides the railway, the quasi-independent status of Kuwayt within the Ottoman Empire, and the special British position in the Gulf. The Baghdad Railway terminus was to be at Başra itself, unless and until Great Britain should agree to its prolongation to the coast. The Company's Board was to be increased by two British Directors; the British position in river navigation was secured; and, in exchange, an increase of the Turkish Customs duties to 15 per cent. was to be allowed.

To consolidate all these results an Anglo-German Convention was initialed on 15 June 1914, by Sir Edward Grey and Lichnowsky, and but for the War would have been signed in August. It confirmed the cessation of British opposition to the railway with its terminal at Başra, established an open-door policy in 'Iraq with acknowledgement of British interests in the sphere of irrigation, and confirmed the provisions of the Anglo-Turkish Agreement of May 1913. Southern Persia was accepted by the Germans as a British area for oil development, and to aid this a Kut–Mandali railway would not be opposed. These provisions, against which many voices were raised among Turkish patriots, offered neverthe-

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

less a prospect of the completion of the railway, object of so many hopes and fears for twenty years.

Meissner Pasha, brilliant and dynamic, polished Orientalist and courtier, appeared in Baghdad in July 1911 and opened his offices in the house of Kadhim Pasha, destined but ten years later to accommodate the British High Commission and later Embassy. The site of the future railway station was selected on the right bank, and the first sod for the projected first section of the line, from Baghdad to Samarrā, was cut in the Wali's presence in July 1912. Difficulties of labour and of river transport, of docks and barges were somehow overcome. The hair of Meissner Pasha turned, as Lorimer reported, from black to white in three years of struggle; but forty-one miles of line to Sumayka were finished in May 1914, and eighty to Samarrā a few weeks after the declaration of war.

The history of river steam-navigation in this period is closely tied to that of the Railway. A clause in the Baghdad Railway Convention of 1903 alarmed both the Lynchs' Euphrates and Tigris Company and the Oman-Ottoman Administration by its threat of privileged competition; but it was never applied. In 1904 the Saniya Administration, for a derisory payment, took over from the Oman-Ottoman their whole fleet and equipment which included four passenger steamers—*Baghdadi*, *Furat*, *Rasafa*, *Mosul*—and a number of smaller craft. The Hamidiya Navigation Administration, now so named, proceeded next to bring into service two new and relatively palatial Scottish-built paddle-steamers, the *Hamidiya* and *Burhaniya*, which Oman-Ottoman had ordered three years before, and four new barges. It operated during its five years of life with a greater efficiency than its predecessor; an English visitor, indeed, pronounced it in 1908 'wonderfully well run', and prophesied its final displacement of the Lynch boats, unless the Railway should first displace both. The Lynch Company meanwhile strove continually for greater freedom of development, which was tenaciously withheld, though a third steamer was permitted to sail regularly after 1907. The difficulties of low-water Tigris navigation and the tribal insecurity above and below 'Amara at times stopped all traffic and distracted the Lynch managers, Mr. Parry and Mr. Tod. The *Julnar*, the most pretentious of their fleet, was acquired in 1908; the other Lynch steamers already time-honoured (*Blosse Lynch*, *Khalifa*, *Mejidieh*) continued in service under their tough veteran officers and Tall Kayfi crews. Free lances on the river—two Shi'i merchants and a head of the rich Khudhayri (Khedery) family—continued to take a share of the traffic, and schemes for further competition, such as that of an Anglo-Greek combine in 1905, were not infrequent. The Turkish revolution led to a retransfer of the Hamidiya Administration steamers from the

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

Government no ground even for diplomatic representations; he rebelled feebly, only to be crushed, superseded, and removed to Teheran. After an abortive uprising by the local Arab tribesmen—Cha'ab and Muḥaysin—and the usual sequence of protests and counter-protests between Baghdad and Teheran, 'Arabistan—henceforward Khuzistan—became a normal province of Persia.

Minor cross-frontier raiding was thereafter settled normally between the nearest officials of the two States. More serious trouble in the areas of Khaniqin and Qaṣr-i-Shirin late in 1925 was composed by a more formal joint meeting in March 1926. A hopeful sign of co-operation was the Persian request (conveyed, as was habitual, through the British Minister in Teheran and High Commissioner in Baghdad) for 'Iraqi help in establishing a new trade route from the Kirkuk railhead to Tabriz. It was necessitated by the Kurdish rebellion in eastern Anatolia, and would involve a mountain road by way of Ṣawj Bulaq and Rawanduz. The 'Iraq Government began its surveys and ordered bridging material from Europe. Farther south, an old disturber of the peace reappeared, Salar al-Dawla. This unbalanced but persistent royal pretender, basing new hopes on the change of dynasty, entered and crossed 'Iraq disguised in the spring of 1925, made for his old haunts in the Kirmanshah province, and sought to raise the Persian Kurdish tribesmen once again to his threadbare standard. The outlaw band of Shaykh Maḥmud was the first to join him, but they had few imitators. The High Commissioner was able by messages to dissuade all but a handful from so hopeless an enterprise, and the Air Officer Commanding flew to concert plans with the Persians at Teheran to prevent a rising. It lacked all serious support, and Salar al-Dawla retired to Syria. But in August 1926 he returned, again reached the Hawraman area, and raised some force of hungry riff-raff which looted a few villages before dispersing. No other help was forthcoming. The Prince re-entered 'Iraq in disguise, was recognized and arrested at Arbil, and was detained at Baghdad while his disposal was considered.

Towards Syria the attitude of the 'Iraqi political public was one of resentment against the French Mandatary; it led to sympathy for all Syrian nationalists and for such rebels against the régime as the Druz in 1925, but it was certainly without ideas, such as have been sometimes ascribed to King Faysal, of armed intervention. Syrian doctors and teachers were employed in 'Iraq, and Syrians were well represented on the King's personal staff. The reopening of the routes from 'Iraq, whether by Euphrates-side to Dayr al-Zur or across the Jazira from Mosul, was a desideratum which led to a series of conferences at Mosul, Dayr, al-Qa'im, and Albu Kamal between 'Iraqi and Syrian, French and British representatives from

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

the terrain least familiar to 'Iraqi troops and most favourable to their mountain-born enemy.

The Police, with an all-'Iraqi executive element and a British inspectorate, was for long the most praised of 'Iraqi services. Developing special forces for particular areas and needs—the Southern Desert, the Railways, frontiers, and the Port—the force, some 8,000 strong in all by 1932, improved also its specialist branches and preserved a fair though not infallible level of security. In 1921 British officers, British sergeants, 'Iraqi officers and 'Iraqi inspectors had numbered respectively 22, 71, 2, and 92; ten years later the figures were 12, 5, 59, and 299. Many notorious wrong-doers—a town gang at Karbalā, Kurdish outlaws of Chamchamal—were traced and tackled, co-operation was offered with the trans-frontier Turks, increased mileages of motor roads were safely policed, and urban traffic ably handled. Prisons were by 1930 well conducted on modern lines under all-'Iraqi executive control, with flourishing prison industries and a boys' reformatory.

Another element contributory to the comparative tribal quietude of these years was the advance in road-making in hitherto inaccessible areas of marsh and mountain, and the increasing mechanization of Government forces. Yet another was the progress made towards direct Government administration, with decreased reliance on the tribal shaykhs; a significant change of policy since Occupation days. The Arms Regulations, imperfectly applied, did little to prevent the carrying of firearms, but the application of the Tribal Disputes Regulations at least helped to settle intelligently, though they could not prevent, inter-tribal quarrels. The prospect of conscription alarmed such tribesmen as were aware of it, and the Census Department, a necessary preliminary to it, did not venture to push its early operations into tribal territory. The intrigues of Baghdad statesmen with tribal leaders, to embarrass their rivals' Ministries, belong rather to the period following 1932; but the policy of the Ikhā had, even before Independence, already tended in that fatal direction. The quarrels of tribal tenants and their landlords on the Gharraf in 1928 need no such explanation, nor the lawlessness of a Ḥammar marsh-shaykh in the same year which led to his punishment and flight. Tribal raiding across the Turkish frontier was inevitable, but could be localized. The Kurdish tribes and Christian villagers immigrant from Turkey in 1926 were settled in 'Iraq without mishap, and a migration without precedent by the Kifri and Ḥawija tribes in 1928 to the Persian frontier around Mandali, seeking pasture, was quiet and bloodless. Three years later the dangerous bazaar strike—encouraged, it was said, by the Ikhā—would if successful have opened the Euphrates townships to tribal raiding; and many shaykhs felt or hoped that

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

the passing of British influence would lead back to the greater freedom of Turkish times.

It was by grace of the relative security of the countryside that archaeological fieldwork could proceed as it did in many tribal areas. The Department of Antiquities, with its improved Museum, was able to form a collection of recovered treasures from 'Iraqi soil which was soon to be among the finest in the world for Sumerian, Babylonian, and Assyrian history. It was increased by the devoted labour, pursued in safety though amid total popular incomprehension, of learned expeditions at Ur, near Naṣiriya: at Kish, near Ḥilla: at Khorsabad, Koyunjik, and Nineveh near Mosul: at Tirkalan by Kirkuk: at Ctesiphon, south of Baghdad: at Warqa, Lagash, Tall Lu', and Tall Billi in central 'Iraq: at Samarrā, and on the lower Diyalā. These many excavations were the work of British, American, German, and French universities and learned bodies, represented locally by scholars of high repute, and co-ordinated by the Department of Antiquities. Apart from their value to the cause of scholarship and their enrichment of 'Iraq's visible assets, the expeditions enhanced the country's prestige, with an immediate harvest of goodwill and tourist traffic. Efforts were made to interest Government in stopping illicit traffic in stolen antiquities: a task not aided by patriot press denunciations of the 'exploitation' of 'Iraq's ancient sites by 'foreign companies'. A British School of Archaeology in 'Iraq was founded in 1929 as a memorial to Miss Gertrude Bell.

6. COMMUNICATIONS AND DEVELOPMENT

The Baghdad–Damascus desert motor route was steadily developed during the later nineteen-twenties. The Nairn–Eastern Company, amalgamated thus in 1925, survived the appearance and early failure of local rivals, improved its services, and evolved specially designed vehicles: King Faysal himself christened their giant 'six-wheelers' in 1927. A mid-desert fort and rest-house at Ruṭba, with its police post and wireless station, was constructed in the same year. On no more than one or two occasions, though notably in 1928, were desert convoys interrupted by bedouin raiders.

Other highway developments of the period were considerable, as the increasing volume of wheeled road traffic demanded; motor vehicles had increased from a few dozen in 1920 to 3,500 private cars and 1,000 lorries in 1930. But the quality of roads did not improve as did their mileage, in spite of increased use of road-making machinery, and only short sections were, for the first time, metalled and bitumen-surfaced. By 1930 not more than 170 miles, of a total of 4,500, had been thus improved. Certain railway bridges

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

494 were decked for road traffic, passable tracks were pushed far into
499 the Kurdish hills. A 900-foot steel bridge over the Euphrates at Faluja was begun by British contractors, Messrs. Balfour, Beatty & Co., in 1927 and, after interruption by floods and a law case, completed in 1932. Permanent steel bridges across the Tigris at Baghdad and at Mosul were planned, and the latter well begun in 1932. A significant project was the road begun in 1927, and after remarkable engineering feats completed five years later, to connect the 'Iraqi system at Arbil with that of Adharbayjan at Tabriz. The 'Iraqi section, first used by experimental convoys in 1931, passed through the fabulous Rawanduz Gorge and was completed by the Persian section to the shores of Lake Urmiya; but its power to divert the Tabriz trade from Batum or Trebizond to Baghdad was doubtful. The close of the period saw the increased use of a direct Baghdad–'Amman route, and the first experiments in developing a pilgrim highway from Najf to Madina.

505 The Tigris steamers operated by the Lynch Company and their local competitors doubtfully held their own against rail, air, and road competition, and had little scope for development. The veteran *Blosse Lynch* and the *Baghdad* were sold as scrap in 1927, *Mejidieh* in 1928, and two R.A.F.-owned steamers, the *S.*16 and *S.*14 were acquired in 1927 by the Euphrates Company, to be renamed *Blosse Lynch* and *Mejidieh*; they were joined by the *Tigris* in the same year. The *Zobaida* ceased to be in commission after
503 1929. At Baṣra Port the bar-dredging operations at Fao, provisionally completed in 1926, were carried further in 1928–30. They resulted in a dredged channel—the Rooka—giving 30 instead of 28 feet of water at high tide (as compared with 20 feet in 1920) and easier movement over the inner bar. The bulk of the Port
505 traffic consisted, as ever, of oil tankers proceeding to and from Abadan, but the Shaṭṭ was used regularly also by the Strick, British India, City, and other British lines, by the (German) Hansa Line and by an occasional ship of the U.S.S.R. or of
504 Sweden. The new Port headquarters ranked among 'Iraq's most imposing buildings. The dredging loan of £460,000 from the Anglo-Persian had soon been repaid, and substitution of 'Iraqi for British and Indian personnel continued. Colonel Ward's Port administration, grouped as a department under Finance, was normally prosperous though badly afflicted by the slump of the years 1929 to 1932. It continued to pay to Great Britain the annual instalments fixed in 1922 as the cost of acquisition, but formation of the Port Trust then envisaged, and again provided in the 1930 Treaty, was not yet in sight.

496 The history of 'Iraq Railways was at this period uneventful.
471 Their status as between British ownership and 'Iraq Government

1: Longrigg G-4, 8 (ca. 1915-1940) MH: Iraq MH:

operation under Tainsh was uneasy, but in practice tolerable; the transfer of ownership to a Railway Corporation of Anglo-'Iraqi membership was, as with the Port of Baṣra, provided in the 1930 Treaty. The service and maintenance of the 750 miles of line were hampered by abiding financial stringency due normally to road competition and the uncertainty of the pilgrim traffic, and abnormally to flood interruptions such as those of 1926 and 1930 and to the stagnation of trade in 1929–32. Two lines of railway development were followed, both of international interest: the first was the provision in 1930 of a link by motor convoy between Kirkuk and the Turkish railway at Nisibin, making possible direct bookings from Baṣra to Europe: the second was the prosecution in 1930–1 of the survey for a Baghdad–Haifa line—a project widely supported but destined, twenty years later, to be still as far from realization.

'Iraq's fortune was that of many contemporary nations in the rapid development of its air routes. A weekly mail service Baṣra–Baghdad–Cairo was inaugurated early in 1927, to be followed two years later by the England–'Iraq–India service of Imperial Airways. In the same year a first civil airport was ceded by the R.A.F., and the (German) Junkers Company initiated, but failed to sustain, a Baghdad–Teheran service. Soon afterwards aircraft of the (French) Air Union or Air France appeared, and those of the Royal Dutch (K.L.M.) line; 'Iraq's central position for air communications—the 'Clapham Junction' rôle asserted for it by Mr. Churchill in 1921—was fast revealing itself. A modern-equipped airport immediately outside Baghdad begun in 1931 was completed in two years, and civil landing-grounds were in use also at Baṣra, Ur, Ruṭba, and elsewhere.

The effect of the trans-desert route and the increasing east–west air services on postal communications was profound. Both were used as they came into being for letters, the former also for packages; communications with Europe and India were revolutionized. In 1929 'Iraq joined the International Postal Union. With the constant spread of the telegraph and trunk telephone network within 'Iraq went the increasing use of wireless. The Baṣra station already communicated directly with Europe; those of Ruṭba and Baghdad were ancillary to it.

If the uplifting of 'Iraqi standards of life could be assisted indirectly by these improvements, it must be sought more directly in the development of its old and some new resources. The efforts of the public and Government were active in this direction. No minerals, other than petroleum, were located. The Government salt monopoly could do no more than maintain itself. A gold concession granted in 1931 for the mid-desert Qa'ara Depression, near

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

opening at Kirkuk in January 1935, its twin 12-inch pipelines to Haifa and Tripoli came into operation. This achievement marked the end of ten years of patient and well-directed work since the grant of the first concession, and by its employment of 'Iraqis in their thousands, its expansion of communications and the example which it offered of successful large-scale modern industry, it added great advantages for the 'Iraqi public to the direct enrichment of their Treasury. The gradually developing works in Kirkuk oilfields, the main depots at Bayji and Ḥaditha, the mid-desert pump-station townships with their connecting roads, pipeline, and telegraphs became a characteristic feature of the modern 'Iraqi scene, while its production, of 4 million tons of crude oil a year from 1935 onwards, placed the country immediately as the eighth oil-producing country of the world. The B.O.D. Company, whose shareholding was in these years predominantly Italian, German, and Franco-Swiss, soon found itself embarrassed by its obligation of annual payment to Government, and by its failure, in spite of an active drilling campaign from 1933 onwards, to discover other than viscous, scarcely marketable oil. The Company's plan in 1935 of diminishing their cash payments by building a Qaiyara–Tall Kochek railway, which could convey their oil to seaboard and link 'Iraq with the Turkish railway system, was after hesitation rejected by Government. Their financial position grew desperate, and a reconstruction of their Board in 1936 marked the transfer of control of the Company to the I.P.C. group; and the latter emerged soon afterwards as outright owners of the B.O.D. and Mosul Oil Fields, with the disappearance of all non-British shareholding in it other than that of the I.P.C., French, and American constituents themselves. The problem of its viscous and sulphurous oil remained to be solved. The smaller Rafidain and Khaniqin Companies (p. 211) continued respectively their work of producing and refining oil in the Transferred Territories, and of marketing it throughout 'Iraq. The project of a Government-owned refinery, for which the I.P.C. concession provided, was conceived during this period but was to prove slow of realization. Road-surfacing was among the uses of oil products in 'Iraq, but neither this nor the too limited funds available could do much at present to provide the country with roads of high or even tolerable standard. Some further sections such as that from Ramadi to Ruṭba were metalled, others were indifferently or barely maintained, all were at worst passable; road maintenance, costly and inconspicuous, was given habitually a low priority in Government allotments. Traffic on the Najf–Madina route increased. The route from the Euphrates to 'Amman and Haifa developed as a powerful rival of the northern track to Beirut. The Rawanduz road, dis-

Lt Longrigg G-4, 5 (ca. 1915-1940) MHI Iraq MHI

appointingly, carried little traffic other than some oil supplies to northern Persia. Following completion of the great Faluja bridge (p. 208) other steel bridges were constructed: on the Lesser Zab at Altun Kupri, the Greater Zab at Aski Kellek, and elsewhere. In Baghdad the replacement of the two pontoon crossings by permanent steel bridges was at last decided, and contracts were awarded to Messrs. Holloway Bros. in 1936, a major step in the development of the capital. The new spans of the Mosul bridge were finished. Municipal street-making proceeded everywhere, and not least in Baghdad.

Little changed in the field of Tigris river navigation. Fears that the Kut barrage would make steamship navigation impossible were aroused but could be allayed; a move made in 1934 by local rivals to question the rights of the Euphrates and Tigris Company led to nothing. River traffic on the whole diminished. The *Zobaida* was sold to India in 1935, the *Blosse Lynch* and *Tigris* as scrap in the same year and the *Khalifa* in 1937.[1] In 1936 the Mesopotamia–Persia Corporation split again into its original components, the Lynch Company and Messrs. Gray Mackenzie. Four small gunboats were acquired by Government in 1937 for riverain police work, but were little used. The Port of Baṣra rendered steady service to the country. Its volume of traffic permitted it to pay regularly its capital instalments to the British Government, and by 1937 a debt of only £300,000 remained. The Port Trust, to be set up under the 1930 Treaty, did not appear; the Port was still administered by a Directorate under the Ministry of Finance. Its bar-dredging scheme operated with great success, repaid its loans, and kept open and improved the deep channel.[1] Two new dredgers were acquired. The Port administration completed a modern airport at Baṣra, furnished with a hotel and all facilities, and provided Baṣra city and suburbs with electric power and a modern water-supply. The ocean traffic using the Port increased substantially after 1935: first two, and later four, Japanese lines appeared, with one each of German, Indian, and Italian ownership and an occasional Russian, Swedish, and Greek steamer. The great bulk of the tonnage remained, as of old, British and British-Indian.

The 'Iraq Railways maintained their solvency and functions in spite of tribal interference, fluctuating traffic, largely obsolescent equipment, and serious road competition. The operation of the system was modernized as far as was practicable, and a rapid Baghdad–Baṣra daily service introduced. Negotiations with the

[1] The low-water depths in the Rooka channel (p. 208), achieved by successive phases of the bar-dredging scheme, were in 1926, 18 ft., in 1928–9, 20 ft., in 1935–8, 23 or 24 ft.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

British Government on the terms of transfer of railway ownership, as intended in the Treaty, were prolonged from 1932 to 1936. In the latter year agreement was reached; the railway as a going concern became the property of the 'Iraq Government for a payment of less than £500,000. Management was for twenty years to be the responsibility of a joint Board with 'Iraqi majority, and with British executives remaining in a few key posts. The transfer on these terms was ratified by Parliament in July 1936, not without some minority outcry; and one more controversy was laid to rest. The long-advocated project of a Baghdad–Haifa railway was, for the foreseeable future, rejected in the same year. But development northwards had become rather a certainty than a project when late in 1934 the French authorities extended the (Turkish) Aleppo–Nisibin line across the Syrian 'Bec de canard' to the 'Iraq frontier at Tall Kochek. Only the single gap Bayji–Mosul–Tall Kochek, all in 'Iraq, now remained in a complete Baṣra–Baghdad–Istanbul system—the old dream of the Bagdadbahn. The decision to construct the missing section at a cost of some £2 million was taken by the Government in November 1936; and the orders placed forthwith in Great Britain for material compelled the 'Iraq Treasury to incur its first foreign loan (p. 254). Earth-work began, the northern section being given priority amid the eager interest of the Mosulawis, the Shammar, and the frontier qaḍhās.

Air communications developed fast. British, French, and Dutch trans-continental lines crossed and served 'Iraq with increasing frequency of aircraft, linking the Far East, India, and 'Iraq itself to the Levant and Europe. Modern airports with full equipment came into being at Baghdad and Baṣra, and British flying-boats after 1937 used also Lake Habbaniya and the Shaṭṭ al-'Arab. A French line offered a shuttle connexion between Baghdad and Damascus, and Misr Airways a Baghdad–Cairo service. Interested Baghdadis formed an Aeroplane Society in 1936. Civil aviation was in 1935, surprisingly, transferred to the control of the Ministry of Defence. The simultaneous development of telegraphs by land line and wireless to the Levant capitals and Cairo, with public services from Baghdad and Baṣra to Riyadh, Beirut, Palestine, and Egypt—and through them to the United Kingdom—placed and kept 'Iraq in the world network of telecommunications. Broadcasting from Baghdad made its first appearance, but was up to 1937 still experimental and occasional.

Good progress was made during these five years in the all-important sphere of land settlement. The three Committees set up under the legislation which followed the Dowson Report worked excellently, and a fourth was added for the Kirkuk area in 1933 and others later. The settlement carried out by these Committees and

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

*645 imprisonment for 'exciting hatred against the Government'; all the other accused were acquitted for lack of evidence.

Ṣalih Jabr, dissatisfied, resigned from the Cabinet; nor was this the only evidence of Cabinet disunion. Tired and ill at ease, and likely to be pressed by public opinion and the Army clique further from his policy acclaimed as 'pro-British', Nuri was more than willing to relinquish the premiership, and on 17 March again resigned office.

619 These vicissitudes of Baghdad politics had, as usual, no great effect on events outside the council chambers. Tribal life was scarcely conscious of the current crises—or, indeed, of the World War itself. A violent tribal battle between two sections of the 'Aniza cost, it was said, 200 lives. Hostilities between the 'Ubayd and Shammar, which flared up late in 1939, were not prolonged. 'Ajil al-Yawir, Paramount Chief of the Shammar, great in stature and shaykhly qualities, died late in 1940 and was succeeded by his son, Sufuk. Northern 'Iraq watched with head-shakings a scandal among the Yazidis, where the child-wife of Sa'id Bey, their Mir, fled in dudgeon to Syria. A military mission of 'Iraqi officers left Baghdad for the Yaman, at the Imam's request. The second of the 499 Baghdad steel bridges built by Holloways, 900 feet in length and named after King Faysal, was completed.

4. GAYLANI AND HASHIMI

*645 The advice of Rashid 'Ali, as head of the Royal Diwan, to the Regent was to install, if he could, an all-party Ministry capable of uniting loyalties and avoiding the pressures of the Army. A meeting at the palace was attended by all ex-Prime Ministers—Nuri Sa'id, both the Suwaydis, Madfa'i, Naji Shawkat, 'Ali Jawdat. These offered the Regent their promise to support whatever constitutional Government should be appointed. Nuri himself proposed the appointment of Rashid 'Ali, to which the Regent agreed; and thus was formed the first Ministry for four years to assume office in 'Iraq without military pressure. It carried high hopes of stability. The Cabinet announced by the new Prime Minister on 31 March contained Naji Shawkat at the Ministry of Justice, Naji al-Suwaydi at Finance, Nuri Sa'id at Foreign Affairs, Ṭaha al-Hashimi at Defence, 'Umr Nadhmi at Works, Muḥammad Amin Zaki at Economics, and the two Shi'is, Ṣadiq Baṣṣam and Ra'uf Baḥrani, at Social Affairs and Education. Rashid 'Ali retained the portfolio of Interior in his own hands. The reappointment of Nuri and Ṭaha seemed to stand for continuity, and suggested the united front of a 'National Coalition Government' which it claimed to be. The ministerial programme declared an attitude of perfect correctness towards the British alliance.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

territory as a communication and defensive area. This was achieved by the expansion of inland bases and of the Port, where new wharves were constructed, cranes erected, roads and buildings provided: by assuming control of and greatly extending the Inland Water Transport services (on lines reminiscent of the First World War), with the import of a score of small steamers and many barges from India and America, and the requisition of the bulk of existing 'Iraqi resources: by perfected telegraphic and wireless networks: and by the improvement and local duplication of the railway line, and the construction of a new line from Kut to Ba'quba. A German threat, against which these preparations were designed, could come by way of Anatolia or, after Hitler's invasion of Russia on 22 June 1941, by the Caucasus and Adharbayjan. The whole of northern 'Iraq must, therefore, be strengthened, and General Quinan prepared positions for this purpose within the triangle contained by the Turkish frontier, the Diyalā, and the Tigris. These works involved great efforts and no small hardship; they called for the use of large forces of local labour and for the provision of the camps, transport and equipment, and the feeding and medical arrangements necessary to maintain them; and they absorbed the two weak Indian divisions—the 8th and 10th, after the departure of the 6th for Persia—which with miscellaneous units formed the 'Iraq garrison at the time. The decision to assist the supply of the Russian armies by supplies conveyed from the Gulf across Persia demanded a formidable organization for procurement and forwarding, based on Baṣra; and in this the United Kingdom Commercial Corporation, the Anglo-Iranian Oil Company, and the British companies at Baṣra played an invaluable pioneer part. It led to a great expansion in the Persian railway and road systems, not least in the close neighbourhood of Baṣra and the 'Iraq frontier where the teak-built 1,150-ft. Hull Bridge across the Shaṭṭ-al-'Arab was the first bridge in history to span this river. The railway terminal at Khaniqin became simultaneously an important forwarding base.

So passed the winter of 1941–2. The British forces in 'Iraq and Persia, then as always predominantly Indian in composition, were regrouped in the early days of January 1942 as the Xth Army, and passed again to the Middle East Command. During the spring the tasks of the winter were continued, with the scale of traffic constantly increasing on rail and river, on the desert highway to Palestine, and in base and advanced areas. If the invasion of Egypt by Axis forces in the spring of 1942 led to the dispatch of some combatant units from the Xth Army to the Levant, the deeper penetration of Nazi forces into south Russia in the summer, with the threat of access to Persia and 'Iraq by the Caucasus, seemed to

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

652 the same amount at 3 per cent. interest, redeemable in ten years. The loans, regarded as experimental, were well received but too small to be of deflationary value. The Banco di Roma disappeared in 1941. The State-owned Rafidain Bank opened in the same year and handled Government accounts; by 1945 its trading began to show profit. The Agricultural and Industrial Bank developed within narrow limits during the war period, and in 1945 a division into two separate institutions, for Agriculture and for Industry, was decided, to be followed later by connected Real Estate and Mortgage Banks. The Arab Bank (of Palestine) opened a branch in Baghdad in the same year.

722 The material development of the territory, which proceeded
496 hopefully till 1941, was thereafter of necessity neglected until the end of the war. But 'Iraq was at least fortunate in that, far from a record of destruction or retrogression—the common fate of Europe—it gained considerable additions, at others' expense, to its communication system. The railway rolling stock was augmented by war-time loans from the military authorities, current maintenance was assured by military help in vehicles and equipment from British or lend-lease sources and, for a time, by numbers of imported railway workers, and problems of excessive traffic—notably in goods for Turkey and the Levant, and in grain for movement to Baṣra—were amicably handled. The military Kut–
● 499 'Aziziya–Ba'quba line was removed after the war. By 1945 it was possible for the Railway Directorate to plan again in terms of major development; its projects included a Baghdad rail-and-road bridge (in replacement of the old waggon-ferry), a bridge at Musayib to give access to Karbalā, a modern station and office block and new marshalling yards at Baghdad, and a sixty-five-mile extension of the line from Kirkuk to Arbil, with a Lesser Zab bridge.[1]

722 The important developments at the Port of Baṣra and its vicinity
504 carried out by military agency included wharves, sidings and approaches, storage facilities, the Shaṭṭ al-'Arab bridge, and a Ma'qil–Ahwaz railway line. Considerable parts of these additions survived the disappearance of Paiforce, though the military jetties at Umm Qaṣr on the Khawr 'Abdullah, and the railway joining these to Baṣra, were dismantled. The military control of Tigris river traffic, relinquished in 1945, bequeathed a permanent legacy of river improvement and repair facilities. With the disappearance
505 of military traffic, the Lynch boats and their rivals could again dispute the civilian traffic, which could not long suffice for all.

[1] Other projects studied at the time were the conversion of all metre-gauge lines to standard gauge, a Baghdad–Homs line across the desert, a standard-gauge line from Kut into Persia, a Karbalā–Najf–Kufa line, and a standard-gauge Mosul–Diyarbakr connexion. None of these materialized.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

504 [503] considered project; and meanwhile, Fao bar-dredging operations, designed to maintain a low-water depth of 23 feet in a substantially widened Rooka channel, proceeded throughout 1943 to 1950. But heavy floods and consequent silt movement caused serious difficulties and, the existing channel proving barely maintainable, the project of a new channel re-aligned in terms of the changed sea-bed conditions was in 1951 under close consideration. To its realization—the more necessary since 'Iraq's own oil traffic from the Zubayr field was likely to increase many-fold—the loss of the rich Abadan tanker revenue was a serious impediment;[1] but in general the future of the vital Fao channel, and indeed that of the Port in general, was under wise and far-sighted review.

505 The tonnage of steamers using the Port was more than half—and in some years more than two-thirds—British, with Dutch, American, Greek, Swedish, and Norwegian shipping well represented. The establishment of an all-'Iraqi Shipping Company continued to be an object of ambition among the interested and the nationally-minded, as a means of undercutting the freight rates charged by foreign lines. The post of Port Director was assumed, after two short tenures, in 1947 by Colonel G. T. Johnson, and in 1951 by R. C. Kelt. Accelerated steps were taken from 1948 onwards for the training, largely in Europe, of 'Iraqis for all posts in the administration, including the highest: an 'Iraqi Port Director was a probability of the near future.

Though transport by the 'Iraq waterways had as ever its irreplaceable part both in the lives of the riverain towns and as a main Baṣra–Baghdad artery, available traffic did not permit—as for a generation it had not permitted, save in war-time—any considerable development of the Tigris steamships. Military transport ceasing with the war, and competition by road and rail and air ever increasing, the Euphrates and Tigris Company in 1946 disposed of most of its surviving fleet, including the *Zenobia*; and early in 1951 it went into voluntary liquidation and sold the bulk of its towing-units and barges to its principal local competitor, Ḥannā al-Shaykh. The latter and members of the Khudḥayri family remained active on the river to fill the place which, after ninety years, was now abandoned as unprofitable by the Lynch enterprise.

496 499 The 'Iraq Railways, which had embarked in 1945 (p. 320) on important projects of construction, were faced also by a heavy programme of needed rehabilitation, improvement of services, and addition to rolling-stock. The five following years saw the com-

[1] The action of the Persian Government in bringing its oil industry to a standstill involved, besides its own ruin, a loss of at least £1 million a year to the finances of Baṣra Port and its dredging scheme.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

pletion of the Kirkuk–Arbil extension and its Lesser Zab bridge: of the railway and road bridge[1] at Baghdad, opened late in 1950: of the Musayib bridge leading to Karbalā: and of new stations at Ba'quba, Diwaniya, Naṣiriya and elsewhere. New rolling stock was ordered and by 1950 delivered. Progress was made in erecting a grandiose combined station and administrative headquarters at Baghdad West, and in redesigning the yards and depots there; but the high cost of these projects, the diminution of receipts by road and air competition (in spite of good traffic in grain and oilfield materials), and losses due to repeated river flooding rapidly exhausted the war-time surplus and led to the need to borrow first from Government in 1946, then from London—a loan of £3 million —in 1950, before supplies and contractors could be paid and work could proceed. Working conditions in the railway system were disturbed by the strikes elsewhere mentioned in 1945, 1946, and 1949. The Jewish employees of the traffic branch were replaced in 1949 by imported Pakistani staff, and the training of 'Iraqis to replace these and the few remaining British executives was accelerated. The status and composition of the Railway Board was unchanged, though criticized by the press as outdated and insufficiently 'national'. The post of Director-General was passed by H. C. Smith to W. J. Moffat in 1950, and an 'Iraqi, General Isma'il Ṣafwat, assumed the post in 1952.

'Iraq Airways was initiated by the Railway as a subordinate enterprise in 1945, and started service in 1946 with five light aircraft hired from Great Britain. In the following year the hired aircraft were replaced by its own machines, and it extended its range from Baghdad–Baṣra outwards to Mosul, Cairo, and Damascus, and by 1948 could, thanks to reciprocal agreements, offer transport weekly or monthly to Teheran, Karachi, and Ankara. The service, to which British Overseas Airways Corporation acted as technical advisers and agents, was efficiently maintained but, thanks to competition and high costs, financially unprofitable. British, American, Dutch, French and other foreign airlines continued to use 'Iraqi airports. An expenditure of over ID 2 million on aerodromes formed part of the six-year development plan. The meteorological service, begun in 1936 in a single room, now maintained under the Ministry of Defence a dozen stations and many rainfall-observation posts, used its own wireless links, and broadcast weather reports for Baghdad area half-hourly.

Telecommunications had, by the close of the period, reached a high standard. Trunk land-lines had been overhauled, often duplicated and widely extended; automatic telephone exchanges

[1] The bridges were built by Messrs. Holloway Bros.; earthwork on the Kirkuk–Arbil line was handled by Messrs. Balfour Beatty.

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

existed in Baṣra and Baghdad and their suburbs; and the telephone and telegraph had become familiar or indispensable to all classes save the most backward. The new wireless transmitting station completed in 1951 at Abu Ghurayb, with the most modern design and range, secured communication with Europe and America and was used for the national broadcasting. The Development Board planned an expenditure of ID 2 million on telecommunications between 1951 and 1956.

Progress in road improvement was delayed during 1946–50 by the financial narrowness of the post-war years. This and bridge-building formed an important part of the projects[1] intended for realization in 1951–6 through the Development Board. The completion of this programme would fundamentally transform the conditions of transport and travel in 'Iraq, with far-reaching economic consequences. The 'Nairn route' to Damascus was still in regular use; its traffic was highly organized, with air-conditioned vehicles, by the original company and its imitators. The Rawanduz road was little used; the tracks leading into Najd and Persia carried no important traffic; and the trunk route to Jordan or Palestine (p. 321) lost its value when the State of Israel blocked the sea-outlet it had offered.

5. TOWN AND COUNTRY, MID-CENTURY

The population of 'Iraq, declared by the census of 1947 to be 4,800,000, had by then doubled since the century opened. Its distribution[2] was in general unchanged as between towns, inlying villages, tribal country districts, and nomads; about a quarter were town-dwellers, a fifteenth nomads, the remainder settled cultivators. Wide areas of steppe desert and of barren mountain remained, as for the foreseeable future they must, almost uninhabited; the widest of such regions, those of the administratively separated northern and southern provinces of the Shamiya desert, amounted to some two-fifths of 'Iraq's whole surface. The average density of population for the whole territory was of the order of eleven persons to the square kilometre, or, omitting the desert provinces, eighteen. The liwā with the greatest population was that of Baghdad with 800,000 people; next came Diwaniya, Muntafiq, and 'Amara. The greatest density was of 49 persons to the square

[1] The projects considered as 'main roads', with their bridges, were estimated to cost: Baṣra–'Amara–Kut–Baghdad, ID 2,800,000: Baghdad–Kirkuk–Arbil, 2,500,000: Baghdad–Sharqat, 3,450,00. Elsewhere, ID 4,450,000 was allotted for 'mountain roads', 6,176,000 for miscellaneous bridges, 1,550,000 for a Ḥilla–Najf road, 1,300,000 for Ḥilla–Diwaniya–Shamiya, and 5,250,000 for numerous other routes.

[2] For distribution of the population by administrative units, see Appendix B.

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and meteorological services. At the Baghdad airport it would be desirable to build an entirely new runway and to use a wing of the new railway building as the air terminal. The Port of Basra can finance the necessary work there, but that at Baghdad, costing probably between ID 250,000 and ID 300,000, will presumably have to be financed out of Development Board funds. The Mission has no specific recommendations to make on Iraqi Airways, which assures some internal and international services with a small fleet of four planes, except to suggest that its finances be completely divorced from those of the railways. It is neither logical nor sound financially to require the railways to defray the deficits of the airways. It would be desirable to carry out any future development of the airways in cooperation with other Middle Eastern countries.

Inland water navigation has steadily declined in importance and is now rather insignificant. While irrigation rather than navigation will always be the primary consideration in the use of available water resources, it is possible that the better regulation of the Tigris and Euphrates will ultimately result in some improvement in the navigability of these rivers. Limited but uninterrupted navigation might be insured if the river bed were trained by dams, locks and groynes into a narrow channel at low water and progressively wider channels at higher water levels. The feasibility and cost of such a scheme might ultimately be submitted for study to experts from the Netherlands where similar conditions have long been encountered.

Roads and Road Transport

Road transport has not assumed great importance in the past, primarily because most roads are unsurfaced and impassible for a large part of the year. Even large communities like Kut and Amara, although not situated on railway lines, are not served by all-weather roads. An interdepartmental committee worked out and presented in 1950 a 10-year program for the construction or improvement of 37 main surfaced roads involving a total length of 3,463 kilometers at an aggregate cost of ID 14,500,000. Both the program and the proposed specifications of the roads are sound. In addition, the building or improvement of about 8,000 kilometers of secondary or feeder roads, which do not need to be surfaced, will ultimately

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be necessary. Such a program will need to be coordinated particularly with the development of new agricultural areas. Earth excavated in the construction of new irrigation and drainage canals can be used in the building of such roads. The surfaced roads should be constructed by contractors of repute capable of furnishing their own road-making plant. It is generally recognized that the Baghdad-Kut-Amara-Basra and the Baghdad-Kirkuk-Erbil-Mosul roads should have first priority. The first of these is at present only a dirt road but the latter has sections which are already surfaced.

As road transport develops, it will be vital to institute some controls, particularly since most of the operators now provide only irregular and unreliable service. Limitations on loads and regular inspection of vehicles should be instituted and enforced. Operators of transport services should be licensed to make sure that they are equipped to provide adequate and reliable service at reasonable rates and that they carry insurance.

The Mission has also given some attention to the municipal bus service in Baghdad. Operations at present are seriously handicapped by the diversity and age of its transport equipment and high maintenance costs. A sound decision has been made to standardize equipment. The central workshop should also be modernized and re-equipped and a central garage and four auxiliary garages provided. To carry out this program financial assistance from the Development Board will be necessary. It is also suggested that more efficient management of municipal transport might be achieved through the appointment of a single Director General in place of the present Board, and that a stricter control over the collection of passenger fares be instituted to improve revenues.

Communications

For communications, capital outlays will be required primarily in connection with the extension of the telephone system. The needs are well-known in Iraq and do not require elaboration here. Although the communications services are operated at a profit which is credited to the government budget, it is suggested that future capital expenditures be financed by the Development Board. This will not only make it easier to balance the government budget, but will enable the Board to insist on better synchronization of the

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491 kilometer treated. For the present this appears to be about sufficient, but costs will increase as the system expands and traffic develops. On the completion of a metalled system of 7,000 kilometers, as planned, the costs would rise to approximately ID 70 per kilometer per year, a total of ID 490,000.

Road Construction

●499 A program was drawn up in 1950 by a Committee appointed by order of the Minister of Communications and Public Works on February 7, 1950. The Committee consisted of the Directors General of Public Works, State Railways, Irrigation, and Surveys, and the Chief Engineer, a British road expert from the London Ministry of Transport temporarily attached to the Public Works Department in Baghdad. This Committee is a laudable example of departmental coordination, and the plan drawn up by the Committee shows unmistakably the value of this cooperation.

The program schedules 37 roads, of a total length of 3,463 kilometers, to be built, or improved as the case may be, in a period of 10 years at a total cost estimated at ID 14,500,000. Construction costs are expected to vary from ID 3,500 to ID 7,500 per kilometer, including drainage, culverts, bridges and costs of supervision. The program assigns first priority to the main trunk road, Baghdad-Kut-Amara-Basra, now an earth road, and the trunk road, Baghdad-Kirkuk-Erbil-Mosul, some sections of which are already metalled.

The roads are to be built to accommodate two traffic lanes, together six meters (20 feet) wide with verges for pedestrians, pack animals and cattle. Specifications drawn up by the Public Works Engineers provide for three types of foundation—stone blocks, broken stone or gravel, eight to nine inches thick; and for two types of surfacing—bituminous macadam or graveled macadam, three inches thick.

The program is sound and the specifications are effective. The Mission recommends that both be adopted as the basis of the future road construction plan, but with the following qualifications:

1. Although trunk roads like the Baghdad-Basra and Baghdad-Kirkuk-Erbil-Mosul arteries and a few others should have a metalled width of six meters and wide verges on each side, the initial width of metalled surface on other

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roads should be kept to four meters until traffic develops. Even on the latter roads, however, space for six-meter lanes and wide verges should be set aside.

2. Earth roads with little or no traffic at present should initially be raised to 50 centimeters, or somewhat less than two feet, above surrounding levels, with proper grading but no metalling until traffic actually appears. In this category should be scheduled such sections as Baghdad-Kut on the right bank of the Tigris, Diwaniya-Ur and Samarra-Shargat. The materials used for foundations ought to be selected from those found in the area, so as to avoid long haulage Suitable stone or gravel or even broken brick of sufficient hardness appears to be found within at most 100 kilometers of any given road section.
3. All depressions styled "Irish Crossings" should be removed.
4. Railway bridges should be disallowed for use by road traffic in trunk roads. The first bridge to be duplicated should be the Baquba bridge.

Feeder Roads

Agricultural and forestry development areas need feeder roads to the nearest railway station or main road or both, and provision for them should be made in development schemes for these areas. For the most part this could probably be done by improving existing country roads or tracks by grading, draining, and sometimes raising them. Good maintenance of these feeder roads is essential and might appropriately be assured by the provincial governments; generally only hand labor and a grader would be required. No hard surface is recommended for these roads. Assuming a total length of 8,000 kilometers for this system of secondary country roads, construction and maintenance of such a network would probably demand an expenditure of ID 100 per kilometer per year, i.e., ID 800,000 per annum in the initial period of five years.

One problem remains to be solved. The Public Works Department has no trained or skilled technical staff to carry out detailed surveys of existing or new roads. It is all important that correct location, alignment, levels, gradients, transition curves, camber and cant, etc., be established and maintained. It is therefore recommended that competent consulting engineers be engaged to do the plans and surveys and supervise the first large-scale construction, and that a nucleus of Iraqi surveyors be recruited to carry on

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the work in the future. The work should be carried out by contractors of repute. Since they will generally possess the appropriate plant, it should not be necessary for the government to purchase any large amount of roadbuilding machinery.

Traffic

Road traffic is still extremely light in the country. As Table 6 indicates, the number of motor vehicles operating in Iraq is still very modest, and of this number most operate in or around the large cities. The personal observation of Mission members confirms that traffic density even on the most travelled roads is very low.

TABLE 6

REGISTERED MOTOR VEHICLES

Year	Passenger Cars	Buses	Trucks	Motorcycles
1942	4,522	n.a.	1,942	82
1943	4,333	n.a.	1,900	100
1944	3,972	n.a.	1,720	116
1945	3,771	n.a.	2,017	127
1946	5,902	n.a.	3,497	524
1947	7,422	n.a.	5,136	1,015
1948	8,678	n.a.	6,088	577
1949	9,601	n.a.	7,262	1,029
1950	11,438	3,007	6,381	1,636

n.a.—not available.

Road Usage

The improvement and construction of roads will undoubtedly bring about a rapid increase in road traffic in the future. It will then become necessary to regulate the usage of the roads. At present both the condition of the vehicles using the roads and their loading can only be described as extremely dangerous. On the many tours made on Iraq's existing roads, far too many of the very few vehicles seen on the roads were observed to be overloaded both with respect to the weight and to the height of the load. Top-heavy vehicles are particularly dangerous, especially on the sharply curved roads in mountains and gorges. Many bridges have been heightened—often in a way which is unsound structurally—to accommodate such vehicles. Vehicles unfit to operate endanger the safety

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XII. Projected Cost of Proposed Programs

The projects recommended for consideration are summarized below as to cost and time of realization. The total cost which the Development Board might have to defray over the next five years would be approximately ID 31,000,000.

TABLE 11

COST OF TRANSPORT AND COMMUNICATIONS PROGRAMS SUGGESTED FOR DEVELOPMENT BOARD FINANCING

Project	Costs (in dinars)	Period (years)
PORT		
New channel	2,000,000	4
INLAND WATER TRANSPORT		
Study of river training by experts	Token	2
RAILWAYS		
Baghdad Station commitment	143,000	1
Baghdad new layout, provisional	100,000	1
22 continuation and completion projects under way	213,770	1
labor quarters	341,000	4
Rehabilitation and modernization projects	500,000	5
Renewals including diesel traction	6,300,000[a]	5
Extra for gauge conversion (tentative)	6,000,000	6
ROADS		
Trunk road system	14,500,000	10
Secondary road system	4,000,000	5
Road transport control	Token	1
URBAN TRANSPORT		
Baghdad transport services, workshops, garages and vehicles	500,000	3
AIRPORTS		
Baghdad development	300,000	2
Basra development	[b]	2
AIRLINES		
Iraqi Airways	600,000	4
POST, TELEGRAPH, TELEPHONE, RADIO		
Telephone extensions and buildings (if not financed from Communications budget)	300,000	Annually
Auxiliary power plant for transmitter	30,000	1
SURVEYS AND MAPPING		
Air surveys	40,000	Annually

[a] On assumption of gauge conversion.
[b] To be financed by Port of Basra.

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APPENDIX C

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Additional Railway Projects

1. Railroad bridge across Tigris at Baghdad—completed and financed.
2. Kirkuk-Erbil line—ID 100,000 required of which ID 85,000 for land already occupied.
3. Musayib bridge—ID 3,500 for land occupied, but not yet paid for.
4. Machinery for workshop—ID 11,000 for installation of plant already purchased and paid for.
5. Railway station and headquarters—ID 143,000 commitment plus ID 100,000 for provisional plan.
6. Rolling stock—no allocation required.
7. Crane—no allocation required.
8. Labor quarters—ID 341,000 required to be spread over three to four years.
9. Signalling—ID 4,620 for installation of equipment already procured.
10. Workshop extension—completed.
11. Power house—ID 4,700 for installation of plant already procured.
12. Aircraft to be provided for under air transport allocations.
13. Construction of stations—not urgent.
14. Construction of officials' quarters—not urgent.
15. Army assets—completed.
16. Land already purchased for station extensions—ID 41,000 for two years.
17. Shamiya station—scheme abandoned.
18. Electric plant—ID 12,000 for installation of plant already procured.
19. Accounting machines—ID 20,000.

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20. Electric plant—ID 6,050 for installation of plant already procured.
21. Permanent way—ID 5,000 for installation of plant already procured.
22. Weighbridges—ID 5,900 for installation of plant already procured.